Avaya Proactive Outreach Manager Overview and Specification

Release 3.0
Issue 2
July 2014

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Contents

Chapter 1: Introduction

Purpose

This document describes tested product characteristics and capabilities of Avaya Proactive Outreach Manager (POM), including product overview and feature descriptions, interoperability, performance specifications, security requirements, and licensing requirements.

Intended audience

This document is intended for anyone who wants to gain a high-level understanding of the product features, functionality, capacities, and limitations within the context of solutions and verified reference configurations.

Revision history

Issue	Date	Summary of changes
1	February 2014	Issue 1.0

Related resources

Documentation

For information on feature administration, interactions, considerations, and security, see the following POM documents available on the Avaya Support site at http://www.avaya.com/support:

Title	Description	Audience	Document location
Proactive Outreach Manager Overview and Specification	Provides general information about the product overview and the integration with other products.	Users	The latest PDF is available on the Avaya Support site at Proactive Outreach Manager Overview and Specification.
Implementing Proactive Outreach Manager	Provides information about installing and configuring Proactive Outreach Manager.	Implementation engineers	The latest PDF is available on the Avaya Support site at Implementing Proactive Outreach Manager.
Upgrading Proactive Outreach Manager	Provides information about upgrading Proactive Outreach Manager.	Implementation engineers	The latest PDF is available on the Avaya Support site at Upgrading Proactive Outreach Manager.
Developer's Guide for Proactive Outreach Manager	Provides information about the methods and properties used for the Web interface of Proactive Outreach Manager, and various custom classes and application files.	System administrators Implementation engineers Users	The latest PDF is available on the Avaya Support site at Developer Guide for Proactive Outreach Manager.
Using Proactive Outreach Manager	Provides general information about field descriptions and procedures for using Proactive Outreach Manager.	Users	The latest PDF is available on the Avaya Support site at Using Proactive Outreach Manager.
Troubleshooting Proactive Outreach Manager	Provides general information about troubleshooting and resolving system problems, and detailed information about and procedures for finding and resolving specific problems.	System administrators Implementation engineers Users	The latest PDF is available on the Avaya Support site at Troubleshooting Proactive Outreach Manager.

Alternatively you can see the relevant Avaya Aura® Experience Portal 7.0 documentation from the Avaya Support site. You must install Avaya Aura® Experience Portal before you install POM. You will find references to Avaya Aura® Experience Portal documentation at various places in the POM documentation.

Training

For information about product training, go to the Avaya website at www.avaya.com and click **Training**.

Avaya Mentor videos

Avaya Mentor is an Avaya-run channel on YouTube that includes technical content on how to install, configure, and troubleshoot Avaya products.

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To search for a specific product or topic, enter a key word or words in the Search Channel dialog box. To scroll though the posted videos, click the name of an item on Playlists.

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Chapter 2: Avaya Proactive Outreach Manager overview

Avaya Proactive Outreach Manager (POM) is a managed application of Avaya Aura® Experience Portal, linking the capabilities within the platform more closely with the management infrastructure and services. POM provides a solution for unified, outbound capability to communicate through different channels of interaction like Short Message Service (SMS), or e-mail, or traditional voice and video.

POM is an application for interactive outbound Voice, SMS and E-mail notifications. With POM, you can easily design and deploy campaigns that deliver the right information and service over the right media from the right resource at the right time.

POM provides a prepackaged application that focuses on quicker deployments, shorter time to market, and lower costs.

POM integrates with Avaya Aura ® Contact Center for automated skill-based pacing, and Call Center Elite to offer agent functionality like agent blending, pacing, callbacks, conference, transfer, in addition to the traditional voice and video.

POM provides the functionality to develop and design a call flow with the help of Avaya Aura® Orchestration Designer.

Related Links

New in this release on page 9

New in this release

New features

- Unified system for agent-based and agent-less communication
- Agent-based dialing with preview, progressive, and predictive dialing modes
- Inbound and outbound agent blending
- Agent API for desktop development
- 2–way SMS and e-mail
- Agent less communications while integrating with CCElite or AACC for skill-based pacing
- Real time and historical reports for campaign and agent utilization

- Call recording with Avaya Contact Recorder (ACR)
- Zones and georedundancy
- Integration with ACR for call recording

Other changes

- CS1K certification for automated notification campaigns
- VMware certified

Related Links

Avaya Proactive Outreach Manager overview on page 9

Chapter 3: POM deployment

POM server configuration options

You can install POM software either on a single system or on multiple systems, based on your outbound notification requirements.

You can use a single POM server for smaller campaigns, and multiple POM servers for larger campaigns. In case of a single POM server configuration, you can use a separate server for failover.

Single server configuration

The configuration includes a single system running the EPM, Media Processing Platform (MPP), POM software along with the database and application server. In such a case where you install EPM, MPP, and POM server on a single system, you can use only local Postgres database.

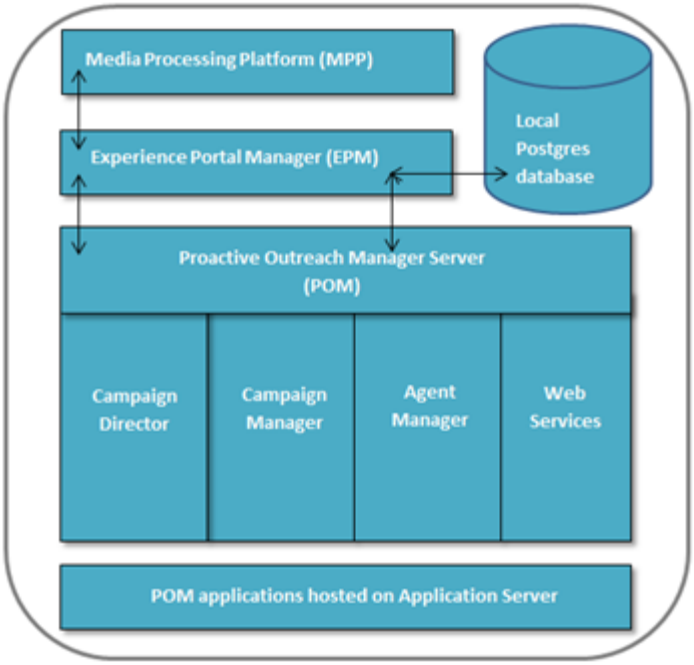

Figure 1: Single POM server configuration

Tip:

Avaya recommends that you install the database server and application server on a separate system for better performance. If you install the database server on one system, and EPM, MPP and POM server on an other system, you can use a remote Postgres database, remote Oracle database , or remote MS-SQL Server 2012 database.

Multiple POM server configuration

The multiple server configuration includes one or more POM servers, installed on the primary EPM and auxiliary EPM. The EPMS plug-in resides only on the primary EPM.

The EPMS plug-in and POM server on the primary EPM system, and the desired number of POM servers on the auxiliary EPM systems.

Note:

You must install the EPMS plug-in and POM server package on the primary EPM.

If you have installed POM as a multiple server configuration and have more than one POM server, then one of the online POM servers controls the failover and load balancing.

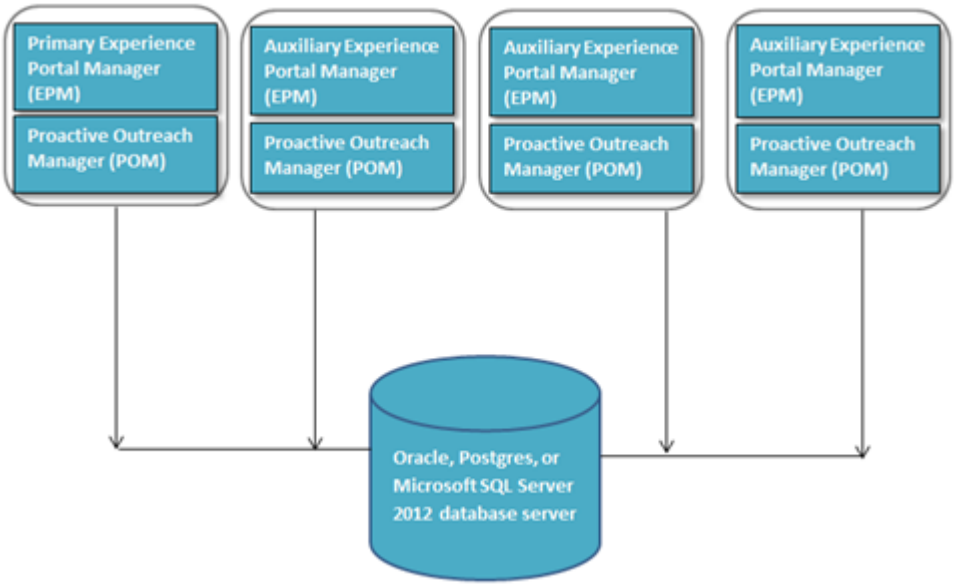

Figure 2: Multiple POM server configuration

Note:

This illustration does not show the MPP servers and application servers hosting POM applications.

Integration with Avaya Aura®Call Center Elite

The following illustration depicts the integration of Avaya Aura®Call Center Elite with POM:

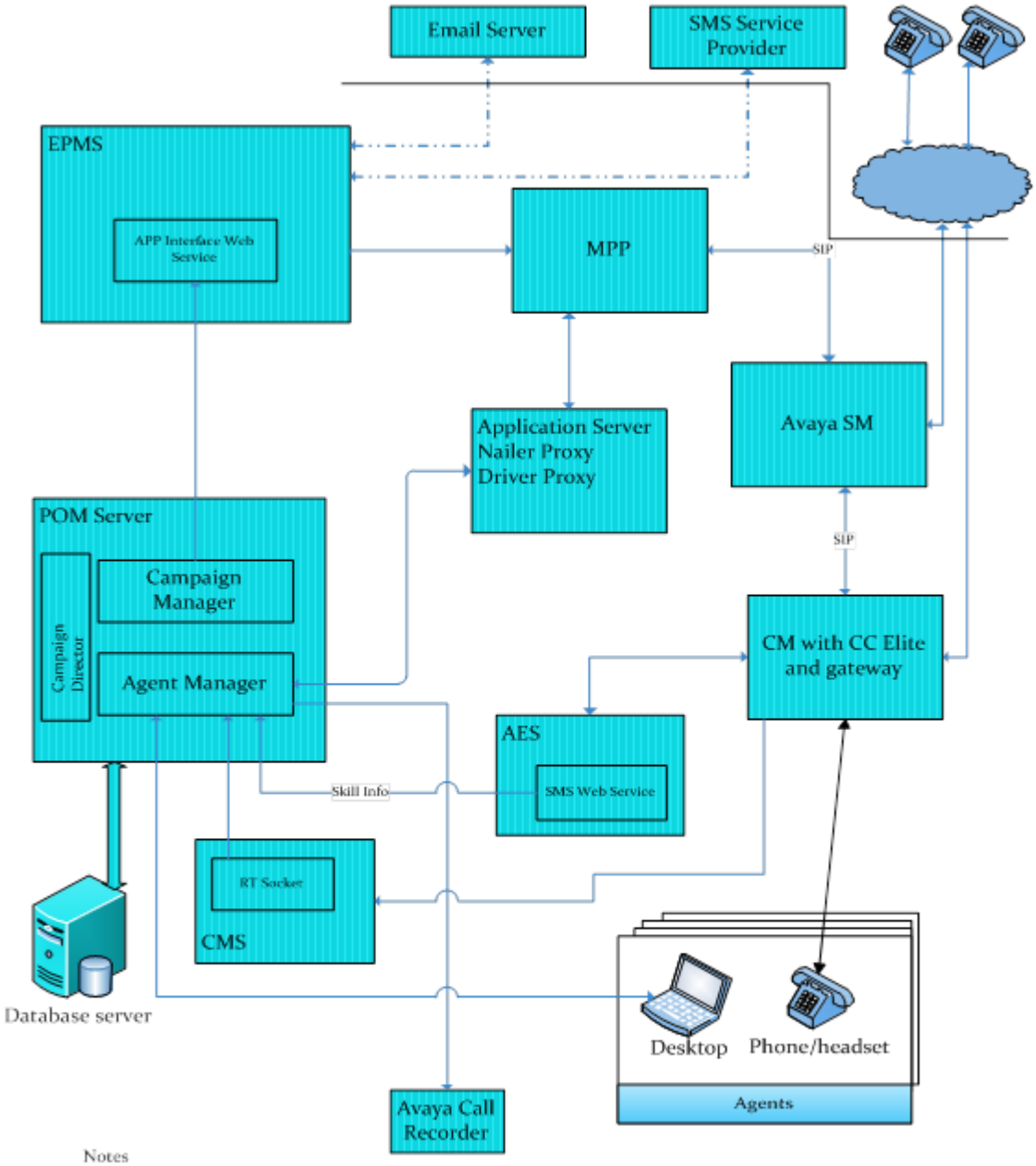

Figure 3: Integration with Call Center Elite

POM integrates with Avaya Aura®Call Center Elite for agent based campaigns. The MPP is used for standard call classification and outbound dialing. POM provides API's to integrate with third party agent desktops. In POM 3.0, you can configure only one Automatic Call Distributor (ACD). For more information about API's, see *Developer Guide for Proactive Outreach Manager*.

POM server overview

The POM server consists of core POM components required to execute campaigns and communicate with the various POM Web services. You can install the POM server either on primary EPM or auxiliary EPM. If you install the POM server on more than one system, the POM server supports high availability and failover capabilities.

The POM components are:

Campaign Director

Campaign Director is a Linux service responsible for triggering campaigns and data imports at scheduled date and time. Campaign Director is also responsible for pausing and resuming campaigns based on user action and terminating campaigns if their finish criteria is specified. If you install POM as a multiple server configuration, only one campaign director is in the active state and others are in dormant state. For a multiple server configuration, the campaign director is responsible for assigning the contacts to be processed for any campaign across POM servers. Campaign Director is also responsible for redistribution of load in case of failures.

Campaign Manager

Campaign Manager is a Linux service is the core campaign engine and is responsible for parsing a campaign strategy, making voice calls, and sending SMS or e-mail messages. For making outbound calls, Campaign Manager interfaces with one or more EPM servers.

If you configure multiple EPM servers, the Campaign Manager uses all the servers in a synchronized manner, thus using all media resources available for load balancing and failover.

If you install POM as a multiple server configuration, the Campaign Manager service runs on all POM servers. When you run a campaign, each Campaign Manager processes the contacts allocated to the campaign by the Campaign Director.

POM Web services

Web services are installed as part of POM server and are accessed from the external applications. POM PDC uses Web services to interface with POM. You can use the Web services to access various contact attributes to play personalized prompts or make certain decisions in the application flow.

Agent Manager

POM Agent Manager (PAM) is a Linux service installed with the POM server and is the core module to manage and run campaigns. You can either have agent-based or skill-based pacing for all types of campaigns. PAM is responsible for distributing licenses to all voice based campaigns. The high-level functions of PAM include:

- Manages agent allocation and state for campaigns
- Manage agents in a blended job. This module is only supported in CCElite configuration. For more information about different configurations, see POM server configuration options on page 11.
- Update the POM database with current agent related information for reporting and HA related functionality
- Distribute the preview and predictive agent licenses among running agent-based campaigns and distributing outbound ports to voice notification campaigns

- Support HA in case of system failures
- Support real time commands from POM Monitor like changing job related parameters minimum agents, priority or agent based commands like Forced Logoff

Nailer CCXML application

To speed process of connecting to customer call with agents, POM keeps the agent on a continuous call. This continuous call is called as nailing. This application takes care of the agent call control flow. An available agent is nailed at the beginning of the call session when the agent gets attached to a job.

POM helps to enhance the agent performance by delaying the un-nailing of an agent. When the system detaches the agent from a job, the system does not terminate the agent nailing. The next job also uses the same nailing session. In some cases, as a result of agent optimization, the system can nail the agent by a different application assigned to the job.

Driver CCXML application

This application takes care of the customer call control flow.

Agent Scripts

The agent script is displayed on agent desktop to help the agent with the customer call. The agent script can be either Native or URL based. You can create, delete, or modify the Native scripts using a built-in editor. To use agent scripts you must associate the agent script with a campaign strategy for agent-based campaigns. For more information about agent scripts, see *Using Proactive Outreach Manager*.

Active MQ

Active MQ is a Linux service installed with POM server and is responsible for stopping, pausing, and resuming campaign and import jobs. You can change the runtime parameters of campaign jobs and publish the contact attempt information using Active MQ.

Database server

The database is a very critical component of the POM architecture. POM uses database extensively to store information like contact records, campaign templates, schedules, and campaign data.

POM supports Oracle and PostgreSQL, and MS-SQLServer databases.

You can install the POM database either on a local server or on a remote database server. Avaya Aura® Experience Portal supports local PostgreSQL database. You can create a POM schema in the Avaya Aura® Experience Portal database, or you can create a POM schema on the local PostgreSQL database server.

If you want to create the POM schema on an Oracle or MS-SQL Server 2012 database, you must install the Oracle or MS-SQL Server 2012 database on a remote server.

POM supports Oracle 11g and higher versions, MS-SQLSever 2012, and PostgreSQL 9.2 and higher versions.

Note:

If you do not create the POM schema in the Avaya Aura® Experience Portal database, ensure you backup the database manually.

POM EPMS plug-in

POM integrates with the EPM to provide common administration and management tasks like Single Sign On, user management, logs, alarms and license management. You can install POM EPMS plug-in only on the primary EPM.

When you install the EPMS plug-in, the plug-in registers POM as a managed application with Avaya Aura® Experience Portal, deploys the POM Web application on the Tomcat server and initializes POM related configurations.

Customizations

You can customize certain features in POM to suit your requirements. POM provides the flexibility to run campaigns, customize the post processing and the monitoring of the campaigns.

After you create and run a campaign, you can choose to export the records after the completion of the campaign, and store in a .csv file. You can change the location where you want to store the .csv file. You can use this file to export all the successful attempts of the given campaign after the campaign job is over. You can select the columns you want to export along with filtering the number of records using the completion code. For example, you can export only those contacts where the completion code is Answer Human.

You can write a custom java class to process all the attempts after the campaign terminates. For example, you can use this to export contacts with customized details like, campaign name, campaign ID, phone number, e-mail address after the campaign job is over.

You can also customize the action you want the POM system to perform as defined in the campaign strategy. You can run a campaign using a custom implementation, and not use the standard call, SMS, or e-mail action. The custom action uses the Application node and you need to specify the custom application class or file name under the Application node when you create a campaign strategy.

You can create your own desktop for agent-based campaigns using the API's that POM provides. For more information about agent API's, see *Developer Guide for Proactive Outreach Manager*.

Chapter 4: Feature description

Campaign management

A campaign delivers a specific message to all customers in the database through selected channels such as e-mail, SMS, and voice.

POM provides a Web-based wizard to create campaigns. A campaign typically has a name, a campaign strategy, and one or more contact lists. You can have either a finite campaign or an infinite campaign. You can set filter criteria on the contact lists. If you specify a filter criterion, POM applies the criterion at the beginning of a campaign and selects only those customer records that meet the specified criterion. You can define and associate one or more custom completion codes with a campaign when you need some user input.

A campaign can end naturally after processing all contacts or you can specify following criteria to end the campaign:

- Goal-based campaign: A goal-based campaign terminates after receiving an expected number of responses from customers.
- Time-based campaign: A time-based campaign terminates after running for a specific time duration. For example, you can terminate a campaign after 12 hours.
- Completion code-based campaign: A completion code-based campaign terminates after achieving a specific completion code condition. For example, you can terminate a blood donation campaign after you receive 50 accepted responses.

After you create a campaign, you can schedule or run the campaign immediately. You can customize the campaign to suit your requirements. You can schedule or run the campaign you create as a single instance or multiple instances with a daily, weekly, or monthly frequency. For example, a birthday campaign can run daily, and a credit card notification campaign can run every Monday.

In addition to creating voice, SMS, e-mail campaigns, you can also create 2 way SMS and e-mail campaigns. These campaigns help you to send and receive responses and you can then take appropriate actions based on different conditions. You must make appropriate changes or create campaign strategies in specific manner to use 2 way SMS and e-mail campaigns. POM uses Web services to enable the 2 way communication. POM provides stock applications for both SMS and e-mail. The applications receive SMS and e-mail responses and update the attribute value and completion code for the specific POM contact. For more information about 2 way SMS and e-mail campaigns, see *Using Proactive Outreach Manager*.

Contact list management

Campaigns need phone numbers for making voice calls and sending SMSs and email addresses for sending email messages. A contact list is a collection of customer records. You can set up any number of contact lists and associate one or more contact lists with a campaign. You can also use a single contact list in multiple campaigns. In a multitenant environment, you can associate a contact list with one or more tenants. Typically this customer data resides outside POM in a contact management system, and based on your campaign requirements, you must import relevant customer records into POM at regular time intervals.

You can set up any number of contact lists and define any number of attributes. Using POM, you can import customer records into a contact list from various external data sources such as flat files, external database and use various Web service methods to create, read, and update customer records. You can export all customer records into a comma-separated values (.csv) file.

Contact attribute management

Attributes are properties of customer data. POM supports various attributes which are common and typically required for processing the customer data. You can filter the customer data based on the attributes.

Based on your campaign needs, you might need custom attributes such as Amount Due, Due Date, and BloodType. Using POM you can set up custom attributes, and import data to these attributes. A typical custom attribute has a name, data type, read only flag for agents, masked for agents flag, and privacy flag.

If you enable the read only for agents flag, the agent is unable to edit the values of the attribute through the agent desktop. If you enable the masked for agents flag, the agent is unable to see the attribute value through the agent desktop. For example, the system displays the passwords as ******. The privacy flag helps you to define the visibility of an attribute in a multitenancy setup. For more details about multitenancy, see Multitenancy on page 27.

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Contact data sources

With contact data sources, you can define source from which you can import customer records in to a contact list. You can define three types of data sources, file based and database based. With the file-based data source, you can import customer records from a .csv file into a contact list. The .csv file can either be on a file system of POM server or the File Transfer Protocol (FTP) server. With the database-based data source, you can import customer records from an external database. You can run the data source to import data. You can also define recurring schedules to import data at a fixed interval from an external file or a database.

POM 3.0 supports new features for the phone numbers and depending on the settings you configure, saves the phone number in the database and applies the specified phone formats, reject patterns or dialing rules. You can specify when POM can place calls. For example if you want POM to place calls only during specific timings or days, you can specify a guard time with the criteria.

For more information about phone formats, reject patterns, dialing rules, and guard times, see *Using Proactive Outreach Manager*.

Media channel management

POM uses various notification channels to run Voice/video, SMS, and e-mail campaigns.

SMS channel

POM leverages capabilities provided by Experience Portal to send/receive SMSs in a campaign. Use this notification channel to send an SMS to the selected customers using the Short Message Peer-to-Peer Protocol (SMPP) 3.4. If the length of the SMS exceeds 165 characters, POM sends the message in the form of multiple SMSs.

Email channel

POM leverages capabilities provided by Experience Portal to send/receive e-mail messages in a campaign Use this notification channel to send email messages using the Simple Mail Transfer Protocol (SMTP). SMTP supports only text in emails and multiple attachments.

Voice and video channel

You can assign Avaya Aura® Orchestration Designer applications, as a part of the campaign strategy.These applications will be played when call launched from a call campaign is answered by a customer. You can use the POM-supplied applications AvayaPOMNotifier and AvayaPOMAgent, to send simple notifications or to transfer a call to an agent. You can use a voice channel to run either an agent-based campaign, or an automated notification campaign.

Campaign strategy management

Use campaign strategies to define the process of interacting with customer during a campaign using various channels . You can select the following aspects of interaction in the strategy:

- Notification channel: voice, SMS, email, or custom.
- Contact address used for customer interaction
- Rules for contacting the customer, such as timing restrictions and number of retries
- Applications to be used
- Personalized notifications texts

Campaign restrictions

You can define restrictions which are applicable to all campaigns globally on the campaign restrictions page You can override the campaign restrictions at the individual campaign level while defining the campaign strategies. For example, if you have set a campaign restriction to not call a customer registered in the Do Not Call (DNC) list, you can override the restriction for an individual campaign.

Campaign pacing

You can use pacing to control the distribution of number of calls, SMSs, or e-mails you want the POM system to make or send depending upon availability of the resource like ports, licenses and agents. POM supports time-based and skill-based pacing for all the 3 types of channels, that is, call, SMS and e-mail.

POM also supports various modes of pacing for agent campaigns such as preview, progressive and predictive campaign.

Time-based pacing for automated voice campaigns

Use the time-based pacing to control the number of calls per second, minute or hour. You can specify the pacing type in the Call node of the campaign strategy.

Time-based pacing for SMS campaigns

Use the time-based pacing for SMS to monitor and control the number of SMS per second, minute or hour. You can specify the pacing type in the SMS node of the campaign strategy.

Time-based pacing for e-mail campaigns

Use the time-based pacing for e-mail to monitor and control the number of e-mails per second, minute or hour. You can specify the pacing type in the Mail node of the campaign strategy.

Skill-based pacing for campaigns

You can use skill based with Call Center Elite or with Avaya Aura ® Contact Center. Skills are monitored using Call Management System (CMS) in case of Call Center Elite. The inbound skills on Call Center Elite are monitored and are used to control the rate of outbound calls or SMS or emails. You can use the skill based pacing to control the rate of the outbound calls, SMS, or e-mails based on certain inbound parameters. The parameters are queue length, expected wait time, average speed of answer, and % answered within service levels. You need to map the skills from the CMS to the skills created in POM and then POM will accordingly vary the outbound call, SMS, or e-mail flow based on the traffic on the inbound skill.

Note:

To create and run skill based campaigns, you must configure RT Socket. For details on configuring RT_Socket, refer to the *Implementing Proactive Outreach Manager* guide.

Call pacing for agent-based campaigns

Call pacing methods are used for agent- based campaigns to control the call rate based on the availability of agents. The pacing methods are:

- Predictive Expert Calling Ratio
- Predictive Cruise Control
- Progressive
- Preview

Predictive Expert Calling Ratio	You can use this method when you want to optimize the use of agents, or manage and change call handling time, or place as many calls as possible during the job. Expert Calling Ratio allows you to change the way POM determines when to place the next call while a job is running.
Predictive Cruise Control	You can use this method if you want to limit abandoned or nuisance calls while maximizing the agent utilization (AU). Cruise control automatically maintains the service level of outbound dialing during a job and connects the calls to agents within a specified period of time. During the job, you do not have to monitor or modify the call pacing settings. The algorithm tries to maximize the AU while maintaining the service level. So it is expected that in some extreme conditions such as low hit rate, the AU drops.
Progressive	You can use this method when you want to ensure that for each call that POM launches, an agent is available. This method ensures that nuisance calls are minimal, but at the same time reduces the agent utilization. The pace of the job is slower as it keeps waiting for an agent and also does not do over dialing using forecasting as in case of predictive methods. You can accelerate the pacing by defining the overdial ratio as more than 1. For example, if you set the ratio as 1 , POM launches 1 call per available agent.
Preview	You can use this method if you want the agent to preview the customer record before dialing. This helps in better customer service.

Custom pacing for all automated voice campaigns

You can use two Web services for custom pacing. SetMaxAttemptsCountForTask and GetActiveJobTaskIdForTask. For more information about the Web services, see*Developer Guide for Proactive Outreach Manager.*

Do Not Call list management

Do Not Call (DNC) lists have the contact information of those customers who opt out from receiving any unwanted calls. With POM, you can import the DNC lists from various service providers to the POM database.

POM does not contact the customers listed in the DNC list for campaigns if DNC is set in the campaign strategy.

Web service management and Pluggable Data Connector nodes

You can gain access to POM features using the VP_POMAgentAPIService Web service methods.

You can use the VP_POMCmpMgmtService Web service for campaign management and custom call pacing.

You can use the Pluggable Data Connector (PDC), a plug-in, to perform POM specific operations using Avaya Aura® Orchestration Designer application. For details on the Web services and PDC nodes and methods, see the *Developer's Guide for Proactive Outreach Manager*.

Zone management

POM 3.0 supports zones. Zoning is the capacity of partitioning a system into multiple zones. The advantages of zoning are better control and distribution of resources, increased performance and scalability. Geograhpically distributed systems as well as large local systems can effectivley use zoning.

You can mark a backup zone as a failover zone. The failover zone takes over if you mark the zone state of the original zone as down.

Note:

If you have marked a zone as a backup for one or more zones, you cannot specify a failover zone for the specified zone.

Zone architecture

Zones are extended POM systems. All zones have a common central database. The POM Zone manager is installed on the primary EPM. If you do not create and assign zones, all the resources belong to the default zone. The different components are:

- Common Campaign Director (CCD): The CCD is responsible for all the common tasks across zones such as scheduling, filtering campaign data, creating historical data, and exporting campaign data. The master campaign director is the CCD.
- Campaign Director (CD): A single campaign director can handle multiple zones. You can assign multiple zones to campaign director and each zone will have a zone director within the CD. You must manually assign the CD and the agent manager for every zone. You can also have multiple CDs which can be geographically located
- Campaign Manager (CM): The CM is responsible for executing the campaigns.
- Agent Manager (AM): The AM is responsible for managing outbound agents. Every zone will have one active AM.
- Active MQ: The active MQ is responsible for receiving messages from the user interface and then passing the messages to the current zones through the active CD and AM.

POM elements impacted by zoning

- Campaigns: It is possible to run a single campaign in different zones. While creating campaigns, you can select contact lists from different zones and create assign the contact list to the specific campaign.
- Contact lists: You can create contact lists for different zones. While creating the contact lists, you must assign a zone. If you do not assign any zone, the contact list belongs to the default zone. You can edit the contact lists to change the zones.

  Note:

  You can edit only those contact lists which are not associated with any active data import or active campaign.
- Licenses: You can assign licenses for different zones that you create. The total licenses across zones cannot exceed the total POM licenses. POM distributes the licenses assigned to a zone to different organizations belonging to the same zone. For example, if <zone1> has 100 licenses, and there are 4 organizations belonging to <zone1>, POM distributes the 100 licenses between the 4 organizations.
- Configurations: You can assign a CD and an AM to a specific zone using the configurations tab. At any point, all the zones must have at least one CD and AM.

Integration with Avaya Contact Recorder

Call recording is an integral feature of any outbound offering and is a critical feature to have as POM 3.0 supports agent based campaigns. To meet this requirement POM integrates with Avaya ACR for call recording capabilities.

POM integrates with Avaya ACR using a switch side recording approach and records calls to meet compliance needs and for bulk recordings. While integrating and extending the recording capabilities, Avaya ACR controls the way the calls are recorded. The recordings are driven by Avaya ACR, and POM does not drive the recordings. POM integrates with Avaya ACR with the help of socket-based messages sent from POM to Avaya ACR. The default port used for communication is 7999. You must choose to enable the recording using Avaya ACR in the Global Configurations when you set up POM. For more information about enabling WFO, see *Using Proactive Outreach Manager*.

Blending

Blending in POM for voice calls helps you to manage the inbound and outbound capabilities and allow the agents to move between inbound and outbound calling activities. POM uses dedicated outbound agents and a pool of blended inbound-outbound agents such that the blended agents are available to the inbound channel if inbound service levels are not being met.

The inbound mission and outbound mission are mutually exclusive. Agents working on inbound calls cannot take outbound calls at the same time. Agent blending relies on the priority settings and the raising of service level exceptions from queue or skills.

Agents move automatically between the inbound mission and the outbound mission based on business priorities and agent availability. The blender acquires or releases agents based on the traffic on particular inbound skill. When the traffic is low or high as indicated by certain parameters, blender accordingly acquires agents back or releases agents from outbound campaigns. The skill that you configure on the CC Elite configurations page is monitored by the blender for the specific zone.

Based on the inputs received from the RT_Socket package on Call Management System (CMS), the blender acquires the agents from inbound or releases agents to inbound according to the traffic on the inbound skill.

PAM also supports manual blending of an agent. You can select an outbound agent on the POM monitor to send to inbound for specific time. The blender will not acquire the agent for the specified time duration even if the traffic is low.

Based on the agent's zone, the PAM server managing the zone initiates an action on the agent, both for inbound and outbound.

You can perform agent blending using the parameters such as Call Waiting, Average Speed of Answer (ASA), Expected Wait Time (EWT), and Percent Service Level (SL). You cannot change the values that are set for ASA, EWT, and SL. For more information about the parameters, see *Avaya Aura® Communication Manager* documentation. The ASA, EWT, and SL impact the blending in some cases like:

- In case of ASA, the system updates the value only after an inbound agent takes a call and completes the call. So if you have no agents for the inbound skill, the system will not updated the ASA value irrespective of the number of calls in queue for the inbound skill. In this scenario, the blending might not happen as per expectation.
- If you have no agents matching the inbound skills, the EWT might be high. This might impact the blending as the system might move the agents to inbound to handle the wait period.
- You must define acceptable values for service level and service level increments for all the skills on the Call Management System. For more information about Spilt or Skill Call Profile setup, see *Call Management System* documentation.

Callback management

POM provides a callback feature to provide an agent opportunity to get in touch with the contact at some later point of time. You can set a callback only after getting the consent of the contact. POM Agent Manager (PAM) allows the agent to set the callback while agent is talking to the contact, or when agent is wrapping up the call. All the callbacks are treated like the preview calls.

Note:

If POM service is stopped when callback is in preview and the contact is not dialed, then once POM service comes and the callback expiry time exceeds, then the contact is not dialed.

POM supports the following 3 callback types:

- Standard
- Campaign
- Agent

Standard callback

Depending on the job on which you set the callback, the PAM gives a callback. If the running jobs has no contacts pending, the system moves the callback to a shadow state, and releases all the resources. If the system receives a callback for the shadow job, PAM retrieves the skill associated with the shadow job , and tries the least priority job having at least one agent associated with the job, and matches the shadow job skill.

PAM prepares a list of all the agent states, but does not consider agents in aux state. PAM then detaches an agent and attaches the agent to the shadow job and the delivers the callback to the agent.

Campaign callback

Campaign callback is very similar to standard callback, except that the PAM prepares the list of running jobs and populates the list to the agent. The agent then chooses the job on which the agent wants to schedule the callback.

In a running campaign, whenever the campaign meets the finish criteria specified in Campaign Creation Wizard, the system terminates the campaign, and as a result the callbacks which are not yet attempted are also terminated. The system updates such callback records with a completion code Callback Terminated.

You can apply time restrictions for the first action in the campaign strategy by specifying the Enable Time Restriction For Callback in global configurations. All time restrictions for the rest of the actions in the campaign strategy remain intact.

Agent callback

Agent callback is a personal callback which an agent can schedule. When agent selects agent callback, the system displays all outbound agents which are not in NOT_READY, LOG_OUT, UNKNOWN or INBOUND_WORK states . The system displays the list to the agents who are working or anticipating the work . The agent can choose callback for self or to any other agent. If the system starts the callback, and the desired agent is busy with some other call, the systems keeps the callback in the queue of the agent and when agent is done with the current call activity, the queued callback is assigned to the agent.

All callbacks have an expiry time. The Campaign Manager (CM) checks the expiry time whenever callback matures. In some cases, the system can present a callback to an agent before the callback matures due to the Callback Pre-Interval Time set in global configurations. In such a scenario, the PAM does not recheck the expiry time and dials the contact.

Note:

The completion code updated by the agent after setting a callback is not processed by the strategy and is ignored.

In some cases where the callback maturity and the campaign start time are very close, the callback might get postponed as the agents are not attached to the job.

Note:

The agent can set a callback for a number through the agent desktop even if the number is a part of a DNC list, but while running the campaign, the number is not dialled.

Geo-redundancy

POM supports geo-redundancy with the help of zones. You must provide backup zones manually through the POM monitor. If you mark a specific zone state to down, POM uses the backup zone and specifies the backup zone as the failover zone. The POM Agent Manager (PAM) gradually stops the zone with the zone state down. The Campaign Director (CD) changes the zone of the job that is running in the zone with the zone state down to the failover zone. The Agent Manager (AM) of the failover zone, processes the additional jobs.

All the agent-based jobs of the zone with the zone state down, continue to run using the agents of the backup zone or failover zone. POM distributes all the agents across the old and new jobs as per the allocation algorithm. Once you mark the zone state to up, the zone starts functioning, the CD again changes the zone to the original zone. You must restart the PAM allocated to the zone, to ensure that the nonfunctional zone is functional.

Impact of geo-redundancy on licenses

When you mark a zone state as down, and assign a failover zone, the licenses of the nonfunctional zone are not used by the failover zone. Campaigns running in the nonfunctional zone share the licenses of the failover zone.

You must manually reduce the licenses of the nonfunctional zone and increase the licenses of the failover zone, provided the failover zone has adequate resources. The failover zone should have all the organizations as that of the nonfunctional zone so that you can allocate the licenses to the organizations.

Impact of geo-redundancy on ECR and Cruise Control campaigns

POM calculates and updates the Agent Utilization (AU) and Service Level Agreement (SLA) at the job level , task level and zone level. In case of ECR and cruise control campaign, when you mark any one of the zone state to down and assign a failover zone to it, the failover zone will start to process the campaigns from down zone, using its own resources hence the system does not calculate the AU and SLA in the failover zone separately for campaigns from the zone which state is marked as down. When you mark any zone state to up, the zone starts processing the ECR and cruise control campaign from the previous AU and SLA values for the campaign when zone was marked to down state.

Impact of geo-redundancy on campaigns

When you mark a zone state as down, and assign a failover zone, ensure that you configure all the required resources on the failover zone. Doing so ensures that the campaigns run smoothly in the failover zone.

Multitenancy

Multitenancy in POM is based on Avaya Aura® Experience Portal. To use the multitenancy in POM, you need to enable multitenancy in Avaya Aura® Experience Portal, and create organizations and users. Depending on the organization to which the user belongs, or depending on the basic configuration settings, you can restrict the access to campaigns, reports, custom attributes, and data sources.

A root user or global user does not belong to any organization and performs the role of POM Administrator, and POM Campaign Manager. An organizational user or Org user belongs to an organization created in Avaya Aura® Experience Portal, and has the Org POM Campaign Manager role. For more information about multitenancy, see *Administering Avaya Aura® Experience Portal*.

POM reports

You can generate various POM reports using the EPM interface.

You can generate standard reports or custom reports. You can also schedule reports to be generated at a later date.

You can generate and view reports for different types of campaigns. For finite campaigns, you can generate and view the reports after successful completion of the first job instance.

For infinite campaigns, you can generate and view the report after the first archival interval. For more information about reports, see *Using Proactive Outreach Manager*.

Chapter 5: Interoperability

Product compatibility

The following table includes Avaya products that are compatible with POM. For an updated list, use the Compatibility tool on the Avaya Support web site at http://www.avaya.com/support.

Product	Release
Application Enablement Services	6.1, 6.2 FP 3
Avaya Aura® Contact Center	6.3 SP10
Avaya Aura®Call Center Elite	5.2, 6.2, 6.3
Avaya Aura®Communication Manager	5.2, 6.2, 6.3
Avaya Aura® Experience Portal	7.0
Avaya Aura® Orchestration Designer	6.0, 7.0
Call Management System	16.3, 17.0
Avaya Aura® Session Manager	6.2, 6.3.2
Avaya Aura® Workforce Optimization	12.0
Communication Server 1000	7.6

Third-party connectivity

Avaya Proactive Outreach Manager (POM) 3.0 supports Oracle, PostgreSQL, and MS-SQLServer 2012 databases. You can install the POM database either on PostgreSQL 9.0, or on Oracle 11g, or on MS-SQLServer 2012. POM supports Inisoft synTelate Desktop version 3.0.

Operating system compatibility

Avaya Proactive Outreach Manager is compatible with:

- Red Hat Enterprise Linux 6.4, 64 bit
- Avaya Enterprise Linux for Avaya Aura® Experience Portal 7.0

Chapter 6: Architectural overview

The objective of this overview is to show architecture of POM and the performances impacting parameters for POM so that the solution designers can take necessary care of the components that might affect the performance.

Tomcat (on EPMS)

All POM web services and Experience Portal's AppInterfaceService are apache axis web services which run in Tomcat. The default installation on POM server has a maximum of 500 tomcat threads and the maximum Java virtual machine memory reserved for Tomcat is 1536 MB.

So each web service call increases a load on Tomcat. For example, only one web service call from the application supports for AvayaPOMNotifier sample application, whereas for a custom Avaya Aura® Orchestration Designer application, utilizing various POM PDC nodes in a call flow is supported. The web service call increases.

Database

Database is a critical component. All POM servers connects to the database. The load on the database increases with the increase in the POM servers, number of agents, and number of campaigns that are running on the system.

Media Processing Platform

Media Processing Platform is a critical component for Voice Campaigns as the Out call Web Server resides here. The POM driver and Nailer applications which are CCXML applications run on MPP. If a standalone MPP can support 1000 inbound calls on HP DL 360 G7 server, Quad Core, 12 GB RAM then the MPP can support up to 750 outbound calls.

Campaign manager worker threads

The Campaign manager worker threads created for a job depend on the total licenses allocated to the job POM database in pim_config table configures the ports for every worker. The default value is 20. Every job creates a worker thread for each 20 outbound ports allocated to it. Each job creates minimum 2 worker threads regardless of the licenses allocated to the job.

Also, POM creates a state worker thread for every 5 agent licenses that are allocated to the job. POM creates a maximum of 100 worker threads for each Campaign manager process.

Campaign director threads

The Campaign director starts the Import manager. Import manager imports contacts or DNC records in POM database. Import manager starts an import job. Maximum import jobs that can run simultaneously are 30% of hibernatec3p0.max_size_PIMCD_Active configured in `PIMHibernate.cfg.xml` file. By default 30 simultaneous imports job can be run as default value of this parameter is 100. If more import jobs are created then the jobs are queued. All other

Campaign Director Threads are fixed and the threads are not dependent on licenses or any other performance factor.

Agent manager threads

For each zone agent manager creates 201 Agent worker threads, and 201 Router threads. Additionally, POM creates a pacing thread for each job.

Also, the Agent Manager creates the following threads for each zone which the agent manages.

1. WFO
2. dbUpdater
3. Call Pacer thread
4. Cleanup thread
5. JMSSubscriber
6. REventReceiver
7. Blender
8. Router
9. SocketServer
10. AM
11. CPCMSocketCommunicator
12. SSlChannel

Ensure that the solution designer has knowledge about all components while implementing a solution.

Chapter 7: Capacity and Scalability

Connection Pool and Database Sizing

The connection pool is configured in `$POM_HOME/config/PIMHibernate.cfg`.xml file.

```
property name="hibernate.c3p0.max_size_PIMCD_Active">100</property>
property name="hibernate.c3p0.max_size_PIMCM">100</property>
property name="hibernate.c3p0.max_size_PIMADMIN">100</property>
property name="hibernate.c3p0.max_size_PIMAGT_Active">100</property>
```

The default value of the connection pool is 100.

Connection Pool size in POM has to be set by considering following parameters:

- Total number of POM outbound ports
- Number of concurrent campaigns

In POM 3.x for every 20 outbound ports, one campaign worker thread is created for every POM server and minimum two threads are created for each job. So for 30 jobs, the default value of 100 is sufficient for a same operation. For more than 30 jobs, you are required to set the connection pool to a higher value.

The following table provides information about what minimum pool size one must set for different campaigns and how many corresponding database connections/sessions it opens on the POM database.

Number of Ports	Number of concurrent jobs	Campaign Manager Threads	Connection Pool Size on POM	Connections needed on Database server for				
				Single POM Server	Two POM Servers	Three POM Servers	Four POM Servers	Five POM Servers
100	1	5	100	400	800	NA	NA	NA
100	5	15	100	400	800	NA	NA	NA
200	5	15	100	400	800	NA	NA	NA
200	10	30	100	400	800	NA	NA	NA
1000	5	50	100	400	800	1200	NA	NA
1000	10	50	100	400	800	1200	NA	NA
2000	10	50	100	NA	800	1200	NA	NA
2000	20	100	100	NA	800	1200	NA	NA

Number of Ports	Number of concurrent jobs	Campaign Manager Threads	Connection Pool Size on POM	Connections needed on Database server for				
				Single POM Server	Two POM Servers	Three POM Servers	Four POM Servers	Five POM Servers
5000	10	250	100	NA	NA	NA	NA	2000
5000	20	250	100	NA	NA	NA	NA	2000
5000	50	250	150	NA	NA	NA	NA	2200

Note:

Set the hibernate.c3p0.max_size more than the minimum required value for the same operation.

POM service restart is required after making changes to the `$POM_HOME/config/PIMHibernate.cfg.xml` file.

If you have co-located Avaya Aura® Experience Portal Report Database on the POM database itself, then you must have few more database connections.

Similarly, for an agent based job, POM creates a state worker thread for every 5 agent licenses allocated to the job. So, for 100 agents and one concurrent job, the number of campaign manager threads must be 20. For 20 concurrent jobs and 100 agents, number of campaign manager threads is 20. For agent based jobs, number of campaign manager threads does not depend on number of jobs.

Database server Disk size

Dedicated database servers for POM database were used. The Experience Portal Reporting Database was also configured on the same DB server. The retention period settings on Avaya Aura® Experience Portal were set to default.

For voice/agent-based campaigns, following observations were made. Following are the disk size observations after 12 million contact attempts for voice/agent-based campaigns:

- Approximately 46 GB DB space was used.
- Space consumed by SDR is 6 GB and CDR is 2 GB.
- There were 1 million contacts in `pim_contact` and 360 MB was consumed by the table.

Following table shows the memory space that are used by POM tables for POM server.

Table	Memory space used
pim_contact_attribute_history	5 GB
pim_contact_attempts_history	4 GB
pim_contact_history	3 GB
pim_agent_contact_history	560 MB The size of the table increases only in case of agent-based campaigns.
pim_contact_attribute	472 MB

Table	Memory space used
pim_contact_attempts	369 MB

For Email and SMS campaigns, Multimedia DB and POM DB both are used. On POM DB, the DB space consumed, depends on the number of contact attempts made and the respective POM tables.

Note:

The SDR and CDR tables are not applicable for Email/SMS campaigns.

Following are the disk size observations on Multimedia DB after an hour's duration on running email/SMS campaign with 50,000 total contacts (4,000–5,000 contacts were processed).

- 5 MB Multimedia DB space was used.
- emailsdr/smssdr consumed around 3640 KB.
- emailcdr/smscdr consumed around 1728 KB.
- Notification was enabled for email/SMS increasing the table size of emailreceipt/smsreceipt to around 48 KB.

The following table shows the approximate DB space consumed for single contact attempt/import. It was observed that the tables such as `pim_contact_attempts`, `pim_job_contact`, `pim_import_ds_job_dtl` consumed the DB space considerably while the respective campaign/import jobs were running. After history creation/archival, the size of these tables reduces.

	Table	DB space
Increase in DB size for every single contact attempt	sdr This table is a part of the Avaya Aura® Experience Portal DB but running POM campaigns does have an impact on the table.	0.94 kb ~
	cdr This table is a part of the Avaya Aura® Experience Portal DB but running POM campaigns does have an impact on the table.	0.68 kb ~
	pim_contact_attribute	0.1208 kb ~
	pim_contact_attribute_history	0.1504 kb ~
	pim_contact_attempts_history	0.4102 kb ~
	pim_agent_contact_history The size of the table increases only in case of agent-based campaigns.	0.2724 kb ~
Increase in DB size for every single contact imported in the database	pim_contact	0.3778 kb ~
	pim_import_ds_job_dtl_hstry	0.9950 kb~

Note:

Additionally you can see, theAvaya Aura® Experience Portal help topic “External database requirements” to set the appropriate purging policy. Four custom attributes were used for the soaks.

Contact lists and import

You can have a maximum of 900 attributes (including system and the custom attributes) in the POM system. You can create up to 50 attributes using**Add Multiple attribute button** on the attributes page.

The test is performed by importing files from SFTP source with different number of records and different number of attributes. When the Contact import runs, no other campaign or export, runs on the POM server. This table provides information about the time required to import“ x” number of records with “y” number of attributes.

Table 1: Time required for importing contact lists

Number of records	Total attributes including system and custom	Approximate time required for import (in minutes)
10,000	38	3.25
10,000	48	3.45
10,000	78	4.5
10,000	128	6.15
20,000	38	5.25
20,000	78	8.4
50,000	78	20.6
1,00,000	38	30
5,00,000	38	170
10,00,000	38	300

The data in the table is for file based import from SFTP source and POM database was on external PostgreSQL server. You might get different results depending on your database environment (PostgreSQL or Oracle), number of attributes in the contact file, usage on the source database, and network speed.

Also, none of the advanced import options such as automatically update time zone for phone numbers, check phone numbers for reject patterns, check phone numbers for phone formats rule and check phone numbers/emails for DNC, Empty Contact List before import, and on Duplicate Records found, are selected for the data source under test in POM . You might notice more time for import, if any or all such options are selected for data source.

Web services performance

You can access POM features and functionality programmatically, by using Web services. Apache JMeter was used to load test the various web services available in POM by creating different number of concurrent threads to know the performance of different web services method.

The following table represents the throughput and successful web services request per second. This test was on a single box POM installation and 100 ports concurrent outbound calls were running while performing the test.

Web service	Method	Concurrent requests	ThroughPut (sec)	Succesful requests per second
AgentAPI	AddContactFromListToJob	500	80	6
	GetContactAttributeValue	500	95	5
	DeleteContactFromList	500	40	13
	GetContactDataFromList	500	130	4
	AddToDNCList	1000	60	17
	UpdateContactAttributeValueToList	500	100	5
	GetPhoneNumber	500	75	7
	UpdatePhoneNumber	500	80	6
	GetContactAttributeValueFromList	500	140	4
	SaveContactToList	300	25	12
	IsDNC	1000	60	17
	RemoveFromDNCList	500	85	6
	ScheduleCallBack	500	75	7
	UpdateCampaignAttributeValue	500	90	6
	AddContactListToJob	5	1.8	3
	UpdateAgentAttributeValue	500	100	5
	UpdateCompletionCode	500	100	5
Campaign Management	GetActiveJobTaskIds	100	90	1
	GetCampaignJobs	100	90	1
	GetActiveJobTaskIdForTask	100	90	1
	SetMaxAttemptsCountForTask	5	1.2	4

Email capacity

Primary EPM – 12,500 Email's/hour

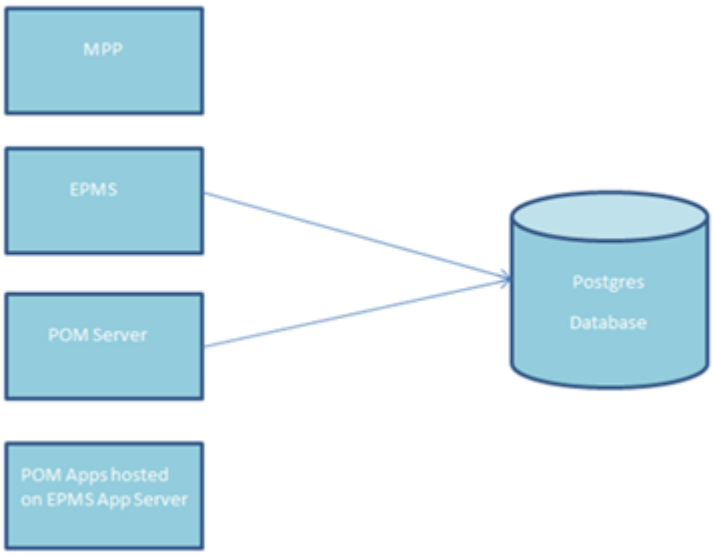
Auxiliary EPM – 25,000 Email's/hour

Single box – 2500 Email's/hour

More Aux EPM's adds more capacity. The numbers in the table are pacing enabled.

	Primary EPM capacity (Messages/hour)	**Auxiliary EPM capacity (Messages/hour)**	**Single box system capacity (Messages/hour)**
Outbound only	Up to 22,500	Up to 30,000	Up to 4,500
Outbound with notification and delivery enabled	Up to 11,250	Up to 22,500	Up to 2,250
Inbound and Outbound together (without notification and delivery enabled)	Up to 11,250	Up to 22,500	Up to 2,250

Single Box Server

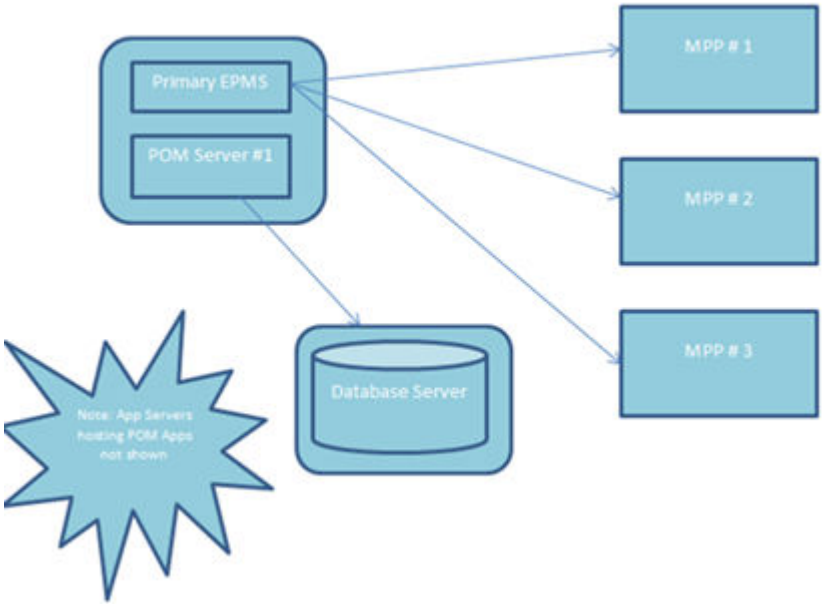


In this configuration all entities, that is EPMS, POM, MPP, Database Server and Application Server are located on the same server.

For some soaks the attachment size used was 1MB. The numbers shown in the table are for a single campaign. Increasing the number of campaigns does not make a difference as the pacing must be the same across the entire system that is, in single box configuration maximum outbound emails supported is 4,500. So, while running 2 email campaigns the pace must be set at 2250 for each campaign. The average CPU utilization was around 25% and the average memory usage was around 40%. The contact attempts made in an hour for different email servers, different delivery configurations, and for different attachments are as follows:

Delivery	Contacts	Pace	Attempts per hour	Attachment	Email Server
Y	10,000	2,500	~2,490	None	MSExchange
N	10,000	5,000	~4,990	None	MSExchange
N	10,000	5,000	~4,980	1MB	MSExchange
Y	10,000	2,500	~2,490	1MB	MSExchange
N	10,000	5,000	~4,990	None	James
N	10,000	5,000	~4,980	1MB	James

One POM server on Primary EPM



In this configuration POM is located on the Primary EPMS.

For some soaks the attachment size used was 1MB. The average CPU utilization was around 35% and the average memory usage was around 40%. The contact attempts made in an hour for different email servers, different delivery configurations, and for different attachments are as follows:

Delivery	Contacts	Pace	Attempts per hour	Attachment	Email server
Y	50,000	11,250	~10,300	None	MSExchange
Y	50,000	11,250	~5,900	1MB	MSExchange
N	50,000	22,500	~19,200	None	MSExchange
N	50,000	22,500	8,300	1MB	MSExchange
N	50,000	22,500	~18,800	None	James
N	50,000	22,500	~5,900	1MB	James

Note:

The data for number of attempts is for a single job.

Two POM servers; one on primary EPM and one on auxiliary EPM

In this configuration, 2 POM servers; one residing on Primary EPMS and other on Auxiliary EPMS are used.

For some soaks, 1MB attachment size is used. The average CPU utilization was around 35% and the average memory usage was around 40%.

No. of Aux EPM's	Delivery	Contacts	Pace	Attempts per hour	Attachment	Email server
1	Y	50,000	33,750		None	MSExchange
1	Y	50,000	33,750		1MB	MSExchange
1	N	60,000	52,500		None	MSExchange
1	N	60,000	52,500		1MB	MSExchange
1	N	60,000	52,500		None	James
1	N	60,000	52,500		1MB	James

Note:

The data for number of attempts is for a single job. Also, increase in 1 Aux EPM and POM increases the capacity by 30,000 emails per hour.

SMS capacity

Primary EPM – 12,500/2 = 6250 SMSes/hour

Auxiliary EPM – 25,000/2 = 12500 SMSes/hour

Single box – 2500/2 = 1250 SMSes/hour

The following table shows the maximum supported numbers in 3 different server configurations.

The numbers in the table are pacing enabled.

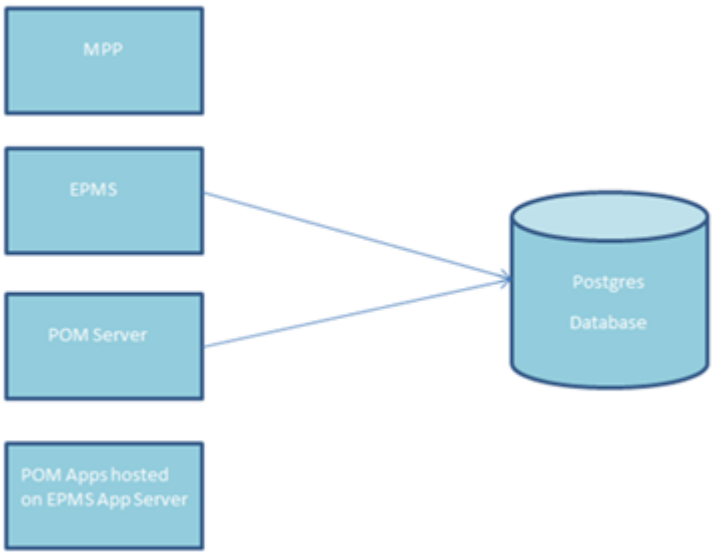
	Primary EPM capacity (Messages/hour)	**Auxiliary EPM capacity (Messages/hour)**
Outbound only	Up to 22,500	Up to 30,000
Outbound with notification and delivery enabled	Up to 5,625	Up to 11,250
Inbound and Outbound together (without notification and delivery enabled)	Up to 11,250	Up to 22,500

Also, these numbers depend on the capacity of the SMS service provider.

Note:

Even if you can control the rate at which SMS can be sent to the SMSC from POM, ensure that the SMS reaches immediately to the intended recipient. Once the SMS is delivered to SMSC, it takes from minutes to hours to reach the recipient.

Single Box Server

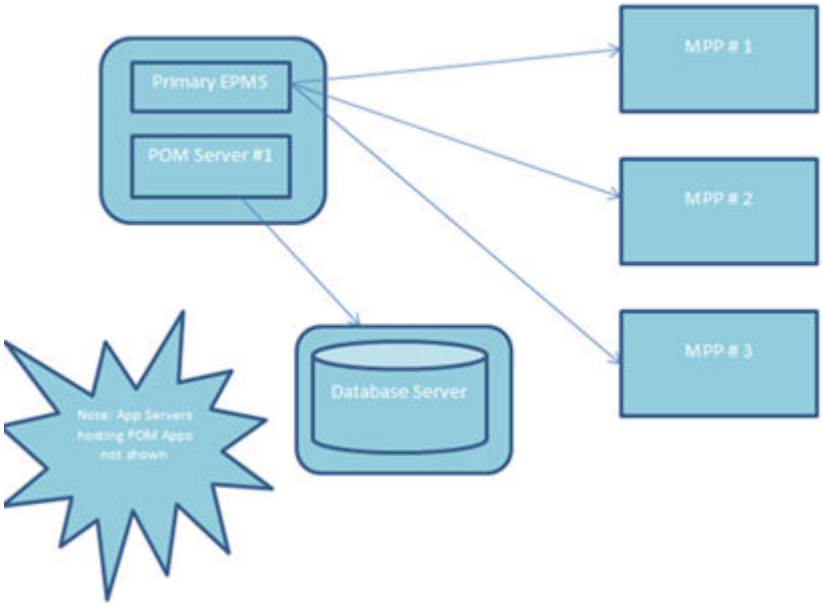


In this configuration all entities, that is EPMS, POM, MPP, Database Server and Application Server are located on the same server.

The following numbers are for a single campaign. Increasing the number of campaigns does not make a difference as the pacing must be the same across the entire system that is, in a single box configuration the maximum outbound SMSes supported is 4,500. So, while running 2 email campaigns the pace must be set at 2250 per campaign. The average CPU utilization was around 30% and the average memory usage was around 40%.

Email/SMS	Delivery	Notification	Contacts	Pace
SMS-SMPP	Y	Y	10,000	1,250
SMS-SMPP	N	Y	10,000	2,500
SMS-SMPP	N	N	10,000	5,000
SMS-SMPP	Y	N	10,000	2,500
SMS-HTTP	N	N	10,000	2,500

One POM server on primary EPM



In this configuration POM is located on the Primary EPMS.

The average CPU utilization was around 35% and the average memory usage was around 40%.

SMS type	Delivery	Notification	Contacts	Pace
SMS-SMTP	Y	Y	50,000	5,625
SMS-SMTP	N	Y	50,000	11,250
SMS-SMTP	N	N	50,000	22,500
SMS-HTTP	N	Y	50,000	11,250
SMS-HTTP	N	N	50,000	22,500

Note:

The data for number of attempts is for a single job.

Two POM servers;one on primary EPM and one on auxiliary EPM

In this configuration, 2 POM servers; one residing on Primary EPMS and other on Auxiliary EPMS were used.

The average CPU utilization was around 35% and the average memory usage was around 40%.

SMS type	No. of Aux EPM's	Delivery	Notification	Conta
SMS-SMTP	1	Y	Y	50,000
SMS-SMTP	1	N	Y	50,000
SMS-SMTP	1	N	N	60,000
SMS-HTTP	1	N	Y	50,000
SMS-HTTP	1	N	N	60,000

Note:

The data for number of attempts is for a single job.

Conclusion

The following table lists the number of agents and available ports on a HP DL 360 G7 server with Quad core processor, and 12 GB RAM. In addition to configuring POM correctly, ensure you plan external system requirements such as Media Processing Platform (MPP)s, database servers, email servers, and SMPP connections.

Server requirement: Number of CPUs: 16, Memory Required: 12 GB					
Number of agents, Predictive/Preview	**Setup type**	**No. of servers**	**Components**	**Ports availability**	**Maximum simultaneous campaigns**
1-60 (Predictive) OR 1-75 (Preview)	Single box	1	EPM, POM, MPP, DB, App server	300 ports	20
1-100 (Predictive) 1-120 (Preview)	Single box with separate DB*	2	1 EPM/POM Server, MPP Server 1 DB server	300 ports	20
61-250 (Predictive) 75-310 (Preview)	Multi Box with Single POM	3	1 EPM/POM Server 1 MPP Server 1 DB server	750 ports	20
251–400 (Predictive) 310-500 (Preview)	Multi Box with Single POM	4	1 EPM/POM Server 2 MPP Servers 1 DB server	1500 (750 X 2) ports	20
401-500 (Predictive) 501-625 (Preview)	Multi Box with 2 POM	5	2 EPM/POM Servers 2 MPP Servers 1 DB server	1500 (750 X 2) ports	50+
501-900 (Predictive) 625-1000 (Preview)	Multi Box with 2 POM	3 + Number of MPP(s)	2 EPM/POM Server 1 DB server Number of MPP(s) as per the above mentioned formula	750X Number of MPP(s)	50+

You can get performance results with 110 predictive agents on this particular configuration If you are using 110 predictive agents, ensure your overdial ratio for progressive jobs, and the hit rate for predictive jobs impacting the number of calls dialed are in synchronization with the number of MPP ports. This configuration and the number of agents can support an overdial ratio of 2 for progressive jobs, or a hit rate of 50% for predictive jobs, since the MPP ports requirement increases beyond the maximum 300 MPP ports supported. To increase the overdial ratio for progressive jobs, or to reduce the hit rate for predictive jobs, you must run the jobs with fewer agents.

The application servers hosting POM applications are not considered in the given calculations.

If you have a single POM server deployment, you can limit the number of concurrent jobs to 20 for optimal results. If you have a dedicated POM server deployment or a multiple POM server deployment you can limit the number of concurrent jobs to 50 for optimal results.

You can configure the **Maximum concurrent jobs** from **POM Home > Configurations > Global Configurations** page.

Call classification analysis recommended settings and detection percentage

Depending on the settings you configure for call classification analysis (CCA), you might get different detection percentage.

Recommended settings for CCA

Home > System Configuration > MPP Servers > VoIP Settings > Call Progress	
Threshold:	
Voice	0.5
Tone	0.95
Periodicity	0.97
Ring count	4
Cut through	
Initial	1100
Long	700
Short	1100
Max voice:	
Initial	2000
Long	2000
Short	2000

Detection percentage for CCA

Based on the recommended settings mentioned in the above table, the CCA detection percentage is as follows:

Table 2: Notification campaigns

CCA start	Sample type	Detection percentage
On Connect	Live Voice (Cell phone)	96.52
On Connect	Live Voice (Land Line)	91.67
On Connect	Answer Machine (Cell Phone)	94.1
On Connect	Answer Machine (Land Line)	93.4

CCA start	Sample type	Detection percentage
On Progress	Live Voice (Cell Phone)	96.8
On Progress	Live Voice (Land Line)	90.1
On Progress	Answer Machine (Cell Phone)	95.8
On Progress	Answer Machine (Land Line)	94.1

Table 3: Agent campaigns with compliance timers off

CCA start	Sample type	Detection percentage
On Connect	Live Voice (Cell Phone)	96.5
On Connect	Live Voice (Land Line)	92.01
On Connect	Answer Machine (Cell Phone)	96.18
On Connect	Answer Machine (Land Line)	96.18
On Progress	Live Voice (Cell Phone)	97.56
On Progress	Live Voice (Land Line)	93
On Progress	Answer Machine (Cell Phone)	95.13
On Progress	Answer Machine (Land Line)	95.13

Table 4: Agent campaigns with compliance timers on

CCA start	Sample type	Detection percentage
On Connect	Live Voice (Cell Phone)	92.7
On Connect	Live Voice (Land Line)	85.9
On Connect	Answer Machine (Cell Phone)	54.1*
On Connect	Answer Machine (Land Line)	65.27*
On Progress	Live Voice (Cell Phone)	92.7
On Progress	Live Voice (Land Line)	86
On Progress	Answer Machine (Cell Phone)	53.64*
On Progress	Answer Machine (Land Line)	63.5*

Chapter 8: Licensing requirements

POM is a managed application on Avaya Aura® Experience Portal. Hence the license requirement and availability depends on Avaya Aura® Experience Portal.

The Experience Portal Manager (EPM) contacts an Avaya WebLM server on a regular basis to determine the number of licenses that are authorized for your system. For security reasons, ensure that the license server runs WebLM version 4.4 or later, and install a valid Avaya Aura® Experience Portal 7.0 on the license server.

After receiving information about authorized licenses, EPM allocates the available licenses among the Media Processing Platform (MPP) servers in the system. Avaya Aura® Experience Portal requires a license for:

Component	Description
Telephony ports	You can use one connection or port for voice activities with each license. A Avaya Aura® Experience Portal system supports up to 1,000 telephony ports. For agent-based campaigns, you need 1 telephony port for agent nail up connection, 1 telephony port for dialing out a customer, and 1 telephony port as a bridge the agent nailed-up call and the customer call . The third port is used for the duration of this bridging and then released. **Note:** To configure an authorized telephony port on the Avaya Aura® Experience Portal system, you must establish an H.323 or SIP connection. For agent-based campaigns, you must have a SIP connection.
Automatic Speech Recognition (ASR) connections	You can use one connection or port for speech recognition activities with each license. If you do not purchase any ASR licenses, you cannot configure ASR servers on your system. You need one ASR license for each call that requires ASR resources. The license will not become available again until the call is complete.
Text-to-Speech (TTS) connections	You can use one connection or port for speech recognition activities with each license. If you did not purchase any TTS licenses, you cannot configure TTS servers on your system. You need one TTS license while a call is using TTS resources. As soon as the call stops using TTS resources, the license becomes available to other calls.
SMS licenses	You need to configure adequate number of SMS licenses if you want to run SMS campaigns. For more information about SMS licenses, see *Avaya Aura® Experience Portal* documentation.

Component	Description
Email licenses	You need to configure adequate number of email licenses if you want to run email campaigns. For more information about SMS licenses, see *Avaya Aura*® *Experience Portal* documentation.

Dynamic licensing

In earlier versions of POM, once the system allocated a license to a job or task, you could not change the allocated licenses, even if the job or task did not need all allocated licenses. This mode of licensing is termed as reserved licensing.

POM 3.0 helps in better allocation and license management with the help of dynamic licensing. Dynamic licensing is useful in cases where a job or a task does not require all allocated licenses, and at the same time there are other jobs or tasks that require more licenses than the allocated licenses . With the help of dynamic licensing, the system can release some licenses and assign the licenses to the other jobs or tasks.

You can choose to use reserved licensing or dynamic licensing. If you choose dynamic licensing, you must remember that:

- Only dynamic job or tasks can donate the additional or excess licenses
- Any job or task can borrow the additional or excess licenses
- No job or task can use more licenses than the maximum value specified in the campaign strategy
- Dynamic job or task always reserve minimum licenses specified the campaign strategy though the job or task may not need the licenses.
- Dynamic job or tasks start donating licenses only the current job or task does not request for a license since last 1 minute and other jobs need more licenses.
- After donating licenses, dynamic job or tasks get the license back only when the dynamic job or task needs the licenses.
- The system allocates the licenses released by dynamic job to other jobs according to their priorities, and minimum and maximum values.

Glossary

EPM	Experience Portal Manager is the Web interface used to access the functionality of Avaya Aura® Experience Portal.
TCP	Transmission Control Protocol is one of the core protocols of Internet Protocol Suite, the set of network protocols used for the Internet.
UDP	User Datagram Protocol is one of the core members of the Internet Protocol Suite, the set of network protocols used for the Internet.

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